CLAIMS

1. (original): A method of treating a lesion or cavity in a tissue comprising filling said lesion or cavity with a solid implant along with an injectable cell-containing formulation.

2. (original): The method of Claim 1 wherein the solid implant contains cells.

3. (canceled)

4. (original): The method of Claim 2 wherein the cells in the solid implant are chondrocytes.

5. (original): The method of Claim 2 wherein the cells are extracellular matrix producing cells selected from chondrocytes; osteoblasts; keratinocytes; fibroblasts derived from skin, tendon, ligament, meniscus, temporalmandibular joint or intervertebral joint, disk or any other connective tissue; stem cells derived from skin, tendon, ligament, meniscus, disk or any other connective tissue; stem cells derived from bone marrow stroma, muscle, skin or other stem cell-containing tissue; embryonic stem cells; or combinations of these cells that may be seeded onto the microcarrier.

6. (canceled)

7. (currently amended): The method of ~~Claim 6~~ Claim 2 wherein the microcarrier is selected from inorganic materials selected from calcium phosphates, calcium carbonates, calcium sulfates or combinations of these materials; organic materials including biopolymers; synthetic polymeric materials; particles of tissues; or chemically modified derivatives of these materials.

8. (original): The method of Claim 7 wherein the microcarrier is selected from inorganic materials selected from calcium phosphates, calcium carbonates, calcium sulfates or combinations of these materials; organic materials including biopolymers selected from collagen, gelatin, hyaluronic acid or chemically derived modifications of hyaluronic acid, chitin, chitosan or chitosan derivatives, fibrin, dextran, agarose, or calcium alginate, or synthetic polymeric materials selected from

polylactic acid, polyglycolic acid or copolymers or combinations of the two, polyurethanes, polycarbonates, polycaprolactones, hydrogels such as polyacrylates, polyvinyl alcohols, polyethylene glycols, or polyethyleneimines; or particles of tissues selected from bone or demineralized bone, cartilage, tendon, ligament, fascia, intestinal mucosa or other connective tissues, or chemically modified derivatives of these materials.

9 - 10. (canceled)

11. (currently amended): The method of ~~Claim 6~~ Claim 2 wherein the culturing of said cells takes place over one to five weeks.

12 - 14. (canceled)

15. (currently amended): The method of ~~Claim 13~~ Claim 1 wherein the scaffold is selected from inorganic materials selected from calcium phosphates, calcium carbonates, calcium sulfates or combinations of these materials; organic materials including biopolymers selected from collagen, gelatin, hyaluronic acid or chemically derived modifications of hyaluronic acid, chitin, chitosan or chitosan derivatives, fibrin, dextran, agarose, or calcium alginate, or synthetic polymeric materials selected from polylactic acid, polyglycolic acid or copolymers or combinations of the two, polyurethanes, polycarbonates, polycaprolactones, hydrogels selected from polyacrylates, polyvinyl alcohols, polyethylene glycols, or polyethyleneimines; or particles of tissues selected from bone or demineralized bone, cartilage, tendon, ligament, fascia, intestinal mucosa or other connective tissues, or chemically modified derivatives of these materials.

16 - 19. (canceled)

20. (currently amended): The method of ~~Claim 18~~ Claim 1 wherein the scaffold is selected from inorganic materials selected from calcium phosphates, calcium carbonates, calcium sulfates or combinations of these materials; or organic materials including biopolymers selected from collagen, gelatin, hyaluronic acid or chemically derived modifications of hyaluronic acid, chitin, chitosan or chitosan derivatives, fibrin, dextran, agarose, or calcium alginate; or synthetic polymeric materials such as polylactic acid, polyglycolic acid or copolymers or combinations of the two, polyurethanes, polycarbonates, polycaprolactones, hydrogels such as polyacrylates, polyvinyl alcohols, polyethylene glycols, or polyethyleneimines; or particles of tissues selected from bone or demineralized bone, cartilage, tendon, ligament, fascia, intestinal mucosa or other connective tissues, or chemically modified derivatives of these materials.

21 - 22. (canceled)

23. (original): The method of Claim 1 wherein the cells in the injectable formulation are chondrocytes.

24. (original): The method of Claim 1 wherein the cells in the injectable formulation are extracellular matrix producing cells selected from chondrocytes; osteoblasts; keratinocytes; fibroblasts derived from skin, tendon, ligament, meniscus, temporalmandibular joint or intervertebral joint, disk or any other connective tissue; stem cells derived from bone marrow stroma, muscle, skin or other stem cell-containing tissue; embryonic stem cells; or combinations of these cells that may be seeded onto the microcarrier.

25 - 29. (canceled)

30. (currently amended): The method of ~~Claim 26~~ Claim 1 wherein the fluid medium suitable for injection contains a material capable of polymerizing or gelling after implantation.

31 - 34. (canceled)

35. (original): The method of Claim 30 wherein the *in situ* gelling of these materials is initiated by thermal, enzymatic or chemical catalysts, pH or ionic strength changes or photo-initiation procedures.

36. (original): A method for replacing a tissue or body part or filling a void in a tissue comprising (1) preparing a solid implant; (2) preparing an injectable cell-containing formulation; (3) implanting the solid implant into a cavity or defect in the tissue; and (4) injecting the injectable cell-containing formulation into the interstices between the tissue and the solid implant.

37. (original): The method of Claim 36 in which the solid implant contains cells.

38. (original): The method of Claim 36 wherein the cells are chondrocytes.

39 - 53. (canceled)

54. (original): An implant for a cavity in the body of a patient, comprising a formed aggregation of cells on first microcarrier particles which approximates the size and shape of the cavity in the patient's body, and an interface layer of cells between the formed aggregation of cells and the cavity in the patient's body, wherein the formed aggregation of cells are implanted in a substantially solid form following culturing of the cells on the micro carrier particles during a first time period, and wherein the interface layer of cells have been cultured on second microcarrier particles during a second time period which is substantially shorter than the first time period and have been applied while in a substantially fluid state.

55. (original): The implant of claim 54, wherein the cells on the formed aggregation of cells comprises chondrocytes, thereby resulting in an implant having cartilage properties.

56. (original): The implant of claim 55, wherein the formed aggregation of cells comprises a molded aggregation of cells.

57. (original): The implant of claim 54, wherein the interface layer of cells comprises cultured stem cells, thereby promoting the rapid integration of the formed aggregation of cells into the soft tissue, muscle or bone surrounding the body cavity.

58 - 59. (canceled)

60. (original): The implant of claim 54, wherein the interface layer of cells is injected into the body cavity after the implantation of the formed aggregation of cells therein.

61. (original): The implant of claim 54, wherein the interface layer of cells is coated onto the formed aggregation of cells, and then the coated formed aggregation of cells is implanted into the body cavity.

62. (original): The method of making an implant for insertion into the body cavity of a patient, comprising the steps of forming a sintered aggregation of cells cultured on first microcarrier particles during a first time period, such that the sintered aggregation is in a substantially solid state, forming a plurality of cells on second microcarrier particles during a second time period which is shorter than the first time period, such that the plurality of cells on the second microcarrier particles is in a substantially fluid state, and combining the sintered aggregation of cells and the substantially-fluid plurality of cells to make the implant.

63 - 70. (canceled)

Respectfully submitted,

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Date

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